

tions. Another portion of the same inflorescence was selected to show the organization of the upper floret. The first of these diagrams is that of Fig. 9 showing the lemma (*le*). In Fig. 10, the upper floret is shown with two lodicules (*lod*), three filaments (*fi*) [shown as black dots], and a gynoceium (*gyn*). The palea (*pa*) of the upper floret is keeled, but the keels are not as prominent as those of the palea of the lower floret. At the levels in Figs. 11 and 12, the anthers (*an*) of the lower floret, and the stigmas (*sti*) of the upper floret are shown.

Examination of the material in the U. S. National Herbarium revealed no lower florets (Fig. 13) with pistils, but an upper floret (Fig. 14) occasionally has nonfunctional stamens. The anthers of the upper floret are small, empty, sac-like structures. In Fig. 14, one anther is missing as well as one branch of the stigma.

F. Lamson-Scribner (1897) used the character of smooth bristles as one criterion for separating *Ixophorus* from *Panicum*. Forty-one percent of the material in the U. S. National Herbarium has antorsely scabrous bristles. These bristles vary from scabrous at the base to half their length. The remainder (59 percent) of the material has viscid, smooth bristles. Smooth bristles have a heavy cuticle. The axis of the inflorescence varies from scabrous to pilose-pubescent. The individual plants range from 10 cm to 1 meter in height. These characters, whether taken separately or collectively, are of insufficient magnitude to warrant segregation of another species or a variety in this genus.

Discussion.—The fascicle of *Ixophorus unisetus* consists of a 2-flowered spikelet with a single bristle prolonged behind it. The bristle is interpreted as a continuation of the axis of the fascicle. The spikelet has two distinctly different florets. The lower is larger, membranous, staminate and the upper is smaller, indurated, and functionally pistillate. In addition, each floret has two well-developed lodicules. The paleas of both florets

are winged at maturity. The very small non-functional stamens of the upper floret, the presence of lodicules in both florets, and the wings on the paleas are types of specialization not common to most panicoid grasses.

Summary.—The taxonomic history and the morphology of the fascicle of the monotypic genus *Ixophorus* are presented in this paper. A morphological study of the fascicle indicates that this genus is separate and distinct in the *Panicaceae* and has specializations not common to most panicoid grasses.

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ENTOMOLOGY.—*A new species of Climacia from California (Sisyridae, Neuroptera)*. HARRY P. CHANDLER, California Department of Fish and Game, Red Bluff Calif. (Communicated by Ashley B. Gurney.)

The Sisyridae are small Neuroptera which are parasites in their larval stage on fresh-water sponges. Though widely distributed in North America, especially in the eastern half of the United States, they are frequently localized and are poorly known even to most

entomologists. The species here described constitutes the only record of the family Sisyridae from California that is known to the author, and this is the first time the genus *Climacia* has been recorded west of the Rocky Mountains.

Climacia californica, n. sp.

Holotype (male): Head, antennae, and palpi dark brown with margins of face paler; thorax dark brown with medial portion paler; legs light yellow; abdomen dark brown. Ultimate segment of maxillary palpi (Fig. 1, A) slightly swollen, widest near middle, outer side straight, inner side uniformly tapering to lanceolate point. Forewing; length 4 mm, width 1.3 mm, membrane clear with brown markings, much as in *C. areolaris* but less intense; wing bristles more pronounced; a brown patch extending from base of wing between Sc and MA to proximal third of wing, then faintly to posterior margin and back through anal region to base of wing; another triangular patch extending from two costal veinlets on each side of base of pterostigma to about middle of wing; pterostigma hyaline; tip of wing with light brown colored area extending from outer fourth of pterostigma which is darker, in an oblique concave arc to posterior margin at basal two-fifths, the posterior marginal area faintly broken into two spots by pale areas near end of

Cul and MP2. Cell R1 between second and third cross vein not more than twice as long as wide, third cross vein proximal to junction of R1 with pterostigma; second cross vein between R4-5 and MA distal to fork in MA; third apparent cross vein between MA and MP1-2 proximal to forking of the latter; MP1-2 with third fork vein originating nearer fourth than second. Hindwings; length 3.5 mm, width 1.2 mm; color pattern about as in front wings but much fainter except in area of pterostigma. Abdomen; (Fig. 1, D), tenth tergite forming a band of nearly uniform width which, when viewed posteriorly, resembles an inverted V with apex slightly rounded, narrowly divided dorsally, lower margins slightly produced posteroventrally; tenth sternite joined at a sharp angle to inner edge of posterior margin of tenth tergite, the upper third at right angles to tergite, twisting anteriorly below so that lower third, which is about twice as wide, joins the tergite at a 45° angle; covered with coarse papillae, each bearing a bristle; ninth sternite without projecting processes.

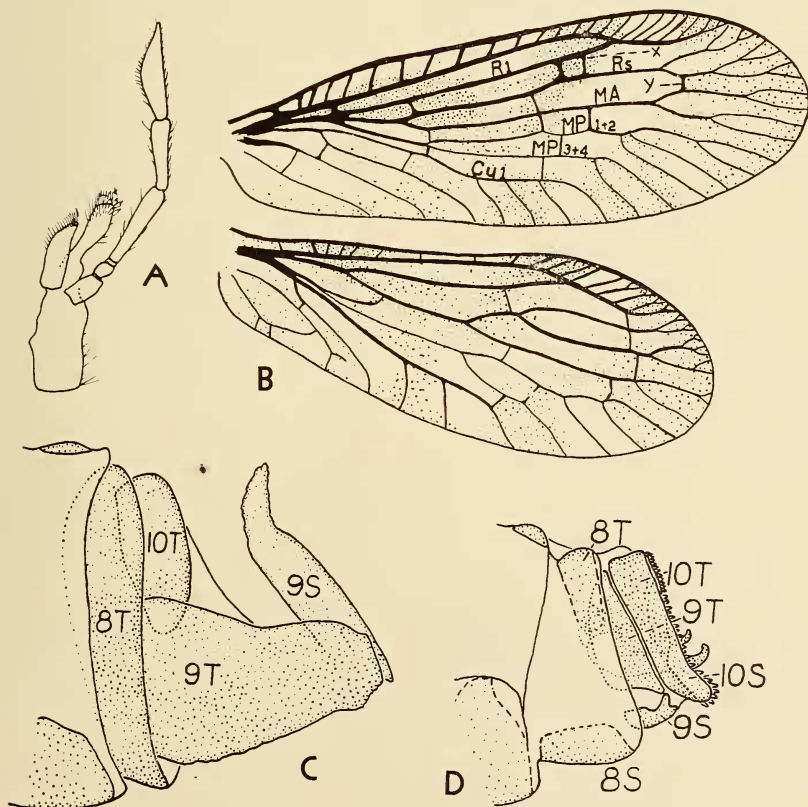


FIG. 1.—*Climacia californica*, n. sp.: A, maxillae; B, wings; C, female genitalia; D, male genitalia.

Allotype (female): Forewing 5.2 by 1.7 mm; hind wing 4.5 by 1.7 mm. Genitalia (Fig. 1, C), ninth tergite with dorsal margin depressed to middle; ninth sternite parallel sided to upper third, than narrowed and bent posteriorly; tenth tergite horseshoe-shaped, posterior margin rounded and covered with bristles so that in lateral view it looks like a bristly pad.

Holotype (male): Clear Lake, Lake County, Calif., May 19, 1949, elevation 1,318 feet, H. P. Chandler. Allotype, same collection data. Paratypes, same collection data, 27 mounted specimens (16 males and 11 females) plus several in alcohol. Holotype, allotype, and three paratypes will be placed in the collection of the California Academy of Sciences, and two paratypes each in the U. S. National Museum, the Museum of Comparative Zoology, the Harley P. Brown collection, and the collection of the California Insect Survey.

The males are smaller than the females, head and body often with more yellow, the wings tend to be less densely colored and with colored area more restricted as in typical *C. areolaris*. This species may be separated from *C. areolaris* as redescribed and figured by Carpenter (pp. 255-256) and as figured by Brown (pp. 152-153) by the location of the cross veins mentioned in the description above, especially the third cross vein in cell R, and the third in cell MA (fig. 1, B, *x*, *y*); the parallel-sided ninth sternite; and the absence of a notch on the dorsal margin of the ninth tergite in the female; the sharp edged and concave posterior face of the male genitalia formed by the tenth sternites. The first branch of MP1-2 is never angular at its base, resembling a cross vein. The eyes are noticeably smaller and the antennae less robust than in the specimen figured by Brown. The number of branches of Cu reaching the margin was variable; 80 percent of the males had four and 82 percent of the females had five; none had more than five, and two males had only three.

The third instar larva resembles the larva figured by Brown (p. 146). The following exceptions are noted: The antennae have 14 segments instead of 16, the third of which is three times as long as any other segment instead of two times. The posterior bristles on the abdomen

extend the width of four segments past the tip of the abdomen instead of being about even with the tip. The "neck" area is more pronounced and the pronotum more elongate.

The existence of this species was first suspected by the author while sorting Trichoptera in the California Academy of Sciences. A specimen damaged by dermestids with only the thorax and wings remaining was found among the Trichoptera. It had been taken in a light trap at Clear Lake. Several trips were made to Clear Lake to find more specimens during 1946 and 1947. A number of larvae were taken on fresh-water sponges at Rocky Point, but no adults were ever taken. In 1949 between May 16 and 19 the author made a survey of the insect fauna of this lake for the California Department of Fish and Game for the purpose of learning something about the existing fauna before this 43,000 acre lake was treated with TDE under the direction of the U. S. Bureau of Entomology and Plant Quarantine to eliminate the Clear Lake gnat (*Chaoborus astictopus* D. & S.). On the fourth and last day of this survey a determined effort was made to locate adults of this species. The site selected was near Jago's resort at the south end of the lake where the waves from the prevailing wind beat against the boulders on a rocky point. The author rowed across Jago Bay to the point. The first swing of the net in the bushes above the rocks produced an adult specimen. Pupae and parasites were taken in protected areas on the rocks above water and larvae from sponges on the rocks below the water surface. The author has not visited this site since the lake was treated with TDE, but larvae have been taken from sponges at Rocky Point since then. Apparently the species was not destroyed.

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